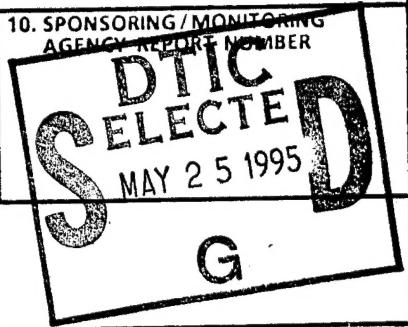


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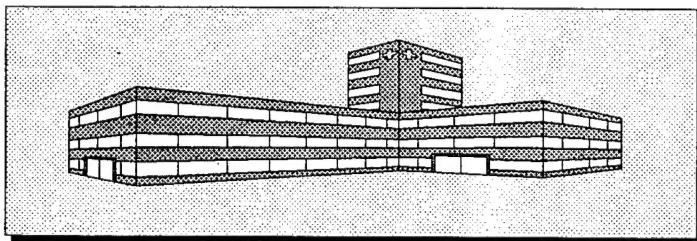
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AND SCIENCE (MMAS)
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**1990-1991
ANNUAL EDITION**

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MASTER OF MILITARY ART AND SCIENCE

On 5 August 1974 legislation was enacted authorizing the U.S. Army Command and General Staff College (CGSC) to award the degree, Master of Military Art and Science (MMAS), an authority originally requested in 1964. The legislation prescribes that the MMAS program require a thesis; also, that the College must attain affiliate or member status with the North Central Association of Colleges and Schools prior to the award of any degree. Included in the statute was authority for retroactive awards to the 182 officers who had successfully completed the MMAS requirements in previous years. On 31 March 1976 the College was granted full accreditation as a masters' degree-granting institution by the North Central Association of Colleges and Schools.

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FOR THE COMMANDANT:



PHILIP J. BROOKES
Director
Graduate Degree Program

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HOW TO USE THIS BOOK

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Some titles have been listed in several places in the subject section, as appropriate. The numbers following the subject heading correspond to the titles in the list of theses, by year of completion. Abstracts and the number of pages in the theses are found in the body of the volume.

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840. The Strategic Rationale for Special Operations Forces Employment, by Major Robert B. Adolph, Jr., USA, 149 pages.

This study examines the potential utilization of Special Operations Forces (SOF) in support of the strategic concept called "Peacetime Engagement." Peacetime Engagement is the proposal of the Assistant Secretary of Defense for Special Operations and Low-Intensity Conflict, Mr. James R. Locher III. Essentially, the concept suggests the pro-active employment of military forces, in concert with the civilian organs of U.S. Government, and in times of relative peace, to counter violence and engage in nation-building in the Third World. The goal of the strategy is to foster democracy by supporting Third World nations in their fight against terrorism, drug-trafficking, insurgencies, and subversion in the environment known as low-intensity conflict.

This thesis suggests that a Triad of U.S. Army SOF (USASOF), supported by other service SOF, and in support of the America's foreign policy objectives, can best accomplish the goals of Peacetime Engagement. For the purposes of my inquiry, USASOF includes Special Forces, Civil Affairs, and Psychological Operations. To make this case, the study delves into the strategic history of SOF, and examines the effects of American political culture on the national security policy-making apparatus of the nation. The net result is a recognition that, to date, the U.S. is unable to develop a long-term and coherent strategy for dealing with low-intensity conflict threats, and that SOF can serve as a viable surrogate for that lack of a strategy.

USASOF, because of their unique capabilities and characteristics, should play the lead military role in Peacetime Engagement. USASOF characteristics supporting this position are low visibility, low cost, maturity, experience, linguistic ability, and cultural knowledge and sensitivity. Employment capabilities reflect the kinds of skills required in LIC; e.g., USASOF are skilled as trainers and advisors, have experience in counter-terrorism, and counter-narcotics, as well as counter-insurgency operations, and possibly more importantly - a SOF strategy is acceptable to the American people, and thus Congress. Additionally, other service SOF, because of a new command and control structure, and habitual working relationships, are best suited to support the USASOF Triad. Examples drawn from the continent of Africa will be used in order to further examine the potential for SOF support to the Peacetime Engagement process.

841. The Chilean Armed Forces: Actors and Not Spectators in National Policy, by Major Eduardo Aldunate Herman, Chilean Army, 227 pages.

This study investigates the historical role of the Chilean Armed Forces in National Policy from the colonial period to the present.

With the arrival of the conquistadors, military force has been an indispensable element for the consolidation of the Spanish colonial system in Chile.

The role of the military was also critical in the achievement of Independence. Once accomplished, the first political institutions had the contributions of the military as both an institution and as individuals interested in giving political stability, which distinguishes Chile, at the beginning of the nineteenth century, from other countries of the area.

Finally, in the twentieth century the military has continued to participate on the political scene in the legitimate defense of Chilean social values.

The Armed Forces of Chile have been the immediate driving force, along with the rest of the political society, of all political constitutions generated in the country.

The professionalism of the Chilean Armed Forces and their contribution to the country are shown not only in their rich history on the battlefield, where they have never been defeated, but also in the realm of internal development, where they have performed with pride and unswerving and invaluable support for national development.

842. Finite Element Analysis of Laser-Induced Damage to Mechanically Loaded Laminated Composites in Helicopters, by LTC Mohammed J.K. Alghatam, BDF, Bahrain, 113 pages.

This thesis examines the lethality of laser-directed energy weapons in causing structural failure to mechanically loaded laminated composites in helicopters. The analysis is based on a three-dimensional numerical finite element model of a rectangular, incipient, orthotropic compression panel with its edges rotationally restrained. The panel is made of 24"x6" graphite/epoxy laminated composite where the laminate consists of fourteen laminas of different ply orientation angles and two different thicknesses. Laser irradiation beam strikes the center lines of the panel with a radius of 3: and applied power load of 1KW/sq cm causing an intense localized heating to the already mechanically loaded panel. Mechanical and thermal buckling and post-buckling behavior of the heated panel are predicted, which is complicated by the anisotropic behavior of the composite material and the thermal effect. Even without buckling, the problem is thermally and structurally non-linear. This work provides insight into using existing codes to obtain approximate solutions good enough for the engineering design, with speed and low cost. This knowledge to the designer of directed energy laser weapon can optimize designs of future weapons, or efficient use of existing ones. Likewise, the helicopter structural designer can optimize the design of future panels and structures, or the efficient use of existing ones.

843. An Analysis of the Department of Defense's Environmental Assessment Program, by Major Todd L. Almand, USAF, 150 pages.

This study examines available information on the environmental assessment process of the Defense Environmental Restoration Program. A determination is made to the effectiveness of the assessment process. This determination is made by comparing federal, state and private industry approaches to the environmental assessment process. The majority of the information comes from service and Environmental Protection Agency environmental planning documents, Department of Defense Inspector General Report, interviews with public and private environmentalists, and private environmental works. The determination does not include a discussion of environmental impact statements.

844. Company Command in Vietnam: A Comparative Analysis, by Major Kurt W. Andersen-Vie, USA, 97 pages.

Historical analysis of Vietnam War combat arms company commanders which compares officers during the initial (1965-1967), and latter (1968-1972) stages of U.S. involvement. Primary support from 80 oral histories conducted with former Vietnam company commanders at the Command and General Staff College and Army War College. Factors considered are political policies, national will, public dissent, enemy threat, military procedures, technology, and the American soldier. Thesis concludes that commanders serving during the

initial years were more effective. Commanders in the earlier period deployed with well-trained, highly cohesive, and well-motivated units. Support, home and abroad, for the war effort, was strong. As the war dragged on, these advantages faded. Commanders were unable to benefit from experience or cohesion as military rotation policies constantly changed their unit personnel makeup. Rapid expansion of the military's training base caused qualitative problems in soldier and leader preparation. Lower admission standards for soldiers, NCOs, and officers gave commanders poorer quality personnel to mold into fighting units.

845. A Joint Task Force Intelligence Staff Section in Foreign Internal Defense Operations, by Major Brad T. Andrew, USA, 223 pages.

This study investigates the intelligence staff section's role in supporting a joint task force's foreign internal defense (FID) operation, in terms of the conflict environment, military missions, the commander's responsibilities. An alternative is offered that allows the intelligence staff section to synchronize intelligence, security, and information war operations.

FID operations require the intelligence staff to provide information on a wide variety of issues beyond the scope of a conventional or insurgent military threat.

Essentially, counterinsurgency is a war of ideas, and ideas are affected not only by events, but also by information on events. Therefore, the actual physical conduct of U.S. military FID activities is only half the battle. How the host nation and U.S. people perceive these activities is equally important. Insurgents recognize this and skillfully interweave violence, subversion, and propaganda to achieve political goals. Conventional U.S. military staff procedures diffuse responsibility in many areas critical to countering or preempting such activities.

In FID, the intelligence staff advises the commander in a war of ideas, information, and security. But, the intelligence staff lacks the doctrinal authority to orchestrate intelligence, information, security, and non-combat arms functions as primary FID weapons. Only the intelligence staff section can synchronize these functions for the commander in the politically dominated FID environment.

846. The Corps Air Defense Artillery Brigade in Support of Defensive Operations, by Major Rick Benito, USA, 100 pages.

This study investigates the role of the air defense artillery (ADA) brigade supporting a maneuver corps in the defense. The concept ties defense formulation to the Soviet Front aviation threat.

The Soviet Air Forces attack in a defined manner with two distinct phases. The first phase includes attacks on targets leading to their gaining air superiority. The second phase involves targets dealing with out sustainment.

The study explains the rationale behind the choice of defense positions and evaluates the defense. The study promotes the use of a high to medium altitude air defense (HIMAD) task forces to succeed.

847. Tomorrow's Multi-Role Fighter Pilot, by Major Bennett M. Bitler, USAF, 134 pages.

This study examines the future training load of multi-role F-16 pilots. The F-16 is programmed to receive production and retrofit modifications giving the aircraft additional capabilities. These capabilities will allow the F-16

to perform a wide variety of tactical air missions. Many of the programmed modifications are designed to enable the F-16 to perform tasks/missions currently performed by single-role aircraft. The F-16's future capabilities will permit the USAF to eliminate many of these specialized aircraft as part of its planned drawdown.

This study investigates the training sorties required for an F-16 pilot to maintain minimum combat capability in all the tasks/missions the aircraft will be capable of performing. This sortie requirement is compared to the training sorties available. An analysis of a unit's ability to conduct all the required training provides a method for evaluating a force structure and unit tasking plan.

The analysis of training sortie requirements reveals that units will not possess the sorties required to allow its pilots to maintain minimum combat capability in all possible tasks/missions. The process used to evaluate tasking is used to construct a recommended tasking plan capable of accomplishment within the available resources.

848. The PLO: A Victory in Terrorism?, by Major Leonard C. Blevins, USA. 119 pages.

This study, using the Palestine Liberation Organization (PLO) as an illustrative case, investigates whether terrorism has been used to achieve political goals. The study is important because if terrorism has been used in this manner successfully, it may be emulated by others attempting to achieve similar goals.

The study begins with a generic discussion of terrorism and its growth from a national to an international problem. The PLO is then used as a case study to address how successfully terrorism has served as a tool to advance organizational goals from the PLO's formation to the end of the 1980's. The case study discusses the history of the PLO. Then it examines specific terrorist acts aimed at achieving recognition of the organization as the sole representative of the Palestinians by the Palestinians, Arab States, the international community, and--as a key element of PLO strategy--the United States. Conclusions and implications are drawn from this examination. In light of the recent Gulf War and its impact on the PLO, an epilogue is included.

849. Strategic Analysis of the Asia-Pacific Region: Is a Forward Based Aircraft Carrier Required in the Post-Cold War Era?, by Lieutenant Commander Charles P. Bourne, USN, 236 pages.

This thesis determines whether there is an operational requirement to maintain a forward-based aircraft carrier in the Asia-Pacific region. Written as a strategic paper, it presents broad operational requirements in a changing world order by examining interdependence and future international order in the wake of the Cold War. The discussion then narrows to formulate the strategic framework of the Asia-Pacific region by presenting historic influences, regional defense, and current issues affecting future U.S. naval requirements in Northeast and Southeast Asia. Key issues related to the U.S.-Japanese Treaty of Mutual Cooperation and Security, Association of Southeast Asian Nations (ASEAN), the Philippine bases, and the overarching influence of U.S. naval contingencies in Southwest Asia. The strategic criteria derives from carrier missions as they apply across the spectrum of conflict. The analysis brings together conclusions and recommends maintaining a forward-based carrier with caveats.

850. Saddam Hussein: Portrait of an Arab Leader, by Major Ray T. Bradley, USAF, 95 pages.

This study examines how Saddam Hussein's past has shaped his political outlook and how he has used power to make that outlook a reality. His past is reviewed in terms of Iraq's social environment during his youth and his early political career to 1963, the date of the first Baathist Revolution.

A major portion of this thesis is devoted to Saddam's use of power in three areas: shaping national will, political power, and military power. Since it is not the author's intent to provide exhaustive coverage of Saddam's political life, only two or three examples will be discussed in each area.

Iraq's history of political violence and Western interference helped mold Saddam into the ruthless leader he is today. By investigating his use of power, certain character traits become apparent. He views the world in simple terms, believes violence is the proper response to most situations, and has aggressive regional goals.

851. Covert Voice Analysis for Detecting Deception and Screening Critical Population Segments, by Major Robert G. Brady, USA, 107 pages.

The United States Army in general and Army Special Operations Forces in particular are engaged around the world as advisors in counterinsurgency operations. In many cases they are facing the same problems and challenges associated with combating mass-base insurgent movements that were faced by their predecessors thirty years ago in southeast asia, and they are doing so with very few new weapons or ideas. With the growth of the overseas counterdrug mission, the Army will face even more critical challenges relating to the identification and neutralization of the infrastructure of underground criminal organizations.

This thesis examines covert voice analysis as a technical means of screening critical population segments. A summary and analysis of a series of interviews of voice analysis device operators is presented. This analysis concentrates on relevant experience in domestic law enforcement. Additionally, the results of an experiment conducted at the United States Disciplinary Barracks are described. This experiment showed that some voice analysts can screen critical population segments with rates of success much higher than chance.

The thesis gives suggestions for further research and makes recommendations for carefully controlled field trials. It concludes with some suggestions for applications of covert voice analysis in counterinsurgency and counterdrug operations.

852. The Tullahoma Campaign: Operational Insights, by Major Richard J. Brewer, USA, 192 pages.

This study examines the operational insights offered by the analysis of the Tullahoma, or Middle Tennessee, Campaign of 1963. The thesis uncovers these operational insights by examining how Major General William S. Rosecrans, commander of the Army of the Cumberland, and General Braxton Bragg, commander of the Army of Tennessee, planned for and conducted the nine day campaign.

This study of both commanders' planning and execution of a campaign characterized by maneuver, rather than large scale battles, highlights five important insights into operational warfighting. These insights include the translation of strategic guidance into an operational plan, offensive and defensive operational planning, the importance of deception, the effects of sustainment on an operation, and the influence of leadership on the planning and conduct of a campaign.

853. Assault Gliders: A Reexamination, by Major Ronald M. Buffkin, USA, 137 pages.

This is a critical examination of the combat glider as used in World War II. This study uses the Market-Garden airborne invasion of Holland in 1944 to determine whether the glider was cost effective as a system of airborne assault.

Cost effectiveness is determined by comparing glider echelons with parachute echelons. Five elements of cost contribute to the expense of airborne operations. These elements are equipment costs, training costs, assembly-packing costs, pay costs, and recovery costs. A Standard Unit Equivalent (SUE) provides the common denominator for capability of gliders and parachutes. SUES measure combat capability and produce a resultant dollar amount. The more cost effective force is the echelon with the least cost for the same combat capability on the ground. Gliders, as used on the first day of the Market-Garden airborne operation were not cost effective because of high costs, poor recovery, and less combat power delivered compared to the parachute. A cost effective successful glider model is offered as having value to any consideration for future glider use.

854. Field Artillery Support for Brigade Heavy-Light Operations, by Major Marion L. Burn, III, USA, 117 pages.

This study investigates the role of the field artillery during brigade heavy-light operations. Using historical analysis, this study examines the sufficiency of U.S. field artillery doctrine, and requirements for tactics, techniques, and procedures (TTP) to support this mission.

A key shortfall identified is insufficient fire support TTP manuals for a heavy brigade commander to assist him in conducting this operation. TTP for corrective action include: a high priority on counterbattery fires during the operation to protect the light force; movement and positioning of firing units to support the heavy-light operation; designing maneuver control measures and fire support coordination measures to facilitate execution of fires while providing the requisite protection to the entire maneuver force; a completed fire plan distributed prior to the beginning of heavy-light operations; heavy-light fire support rehearsals; and modifications to the field artillery unit basic load to support the heavy-light operation.

Other TTP consider the communications requirements for the heavy-light to include: TACFIRE/non-TACFIRE communications; lack of range and redundancy of the light communications systems; and secure equipment capability.

The study concludes that the brigade heavy-light mission is sufficiently different from other operations and that fire support appendices or a heavy-light fire support field manual should address it.

855. The Birth of Modern Counterfire: The British and American Experience, by Major William M. Campsey, USA, 105 pages.

This study investigates the original needs for and development of counterfire techniques in World War I. Concentrating on the experiences of the British and the Americans, the examination explores techniques of counterfire and their failures or successes. The study concludes that several techniques were necessary in World War I to suppress enemy artillery. First, efforts to destroy enemy artillery before battles were not as successful as efforts to neutralize it for the duration of the battle. Second, the enormity of details made competent staff work critical. Third, the intelligence procedures developed in position warfare were insufficient to suppress enemy artillery as the battle line moved forward. Finally, artillery organization and control must be centralized. The study also identifies two techniques

necessary to exploit successful counterfire. First, surprise over the enemy would invariably gain the initiative. First, surprise over the enemy would invariably gain the initiative. Second, counterfire must be integrated into the overall fire plan and the infantry scheme of maneuver.

856. Is the National Drug Control Strategy Undermined by the Measures of Effectiveness Used by Law Enforcement Agencies and Department of Defense?, by Major Craig L. Carlson, USA, 127 pages.

This study discusses the measures of effectiveness used by four Federal law enforcement agencies (LEAs) and the Department of Defense (DoD) to articulate their contributions to the supply reduction mission of the National Drug Control Strategy (NDCS). This study focuses on the manner in which each agency expresses successes and what measures are used in their congressional budget justification.

The investigation determines that the established MOE are not interactive between the participants and their non-linear interpretation is detrimental to cooperation between agencies. DoD uses level of effort statistics that fail to measure effectiveness, are not qualitative, and acquiesce to demands from LEAs.

The study recommends that lessons learned from the establishment of the DoD Joint Staff be applied to the command structure of the NDCS and that interactive MOE be developed between the participating agencies.

857. Can Defense Spending be Justified During a Period of Continual Peace?, by Major Chong Kai-Yew, Singapore Armed Forces, 102 pages.

This study investigates the nature of defense and analyzes defense spending in an economic-rationality framework. It attempts to find justification for defense spending within such a framework.

The study examines the nature of international conflict and the need for defense. Sun Tsu said, "It is a doctrine of war not to assume the enemy will not come, but rather to rely on one's readiness to meet him; not to presume he will not attack, but rather to make one's self invincible."

Indeed, defense spending in a period of continual peace is an insurance against the wrath of a violent enemy. There is no market mechanism to determine the "correct" amount of defense to be acquired vis-a-vis the security desired. How much is required depends solely on the assessments of defense planners and decisions of political leaders.

In war there is no substitute for victory. When called upon, the nation's armed forces must be able to decisively defeat the enemy. The key to defense spending in a period of continual peace is in adopting a strategy which exploits the reduced risk of war. A smaller standing armed force, astute intelligence and rapid mobilization are vital elements of such a strategy.

858. The Use of Fuel Air Explosives as an Alternative for Low Yield Tactical Nuclear Weapons in Attacks Against Soft Concentrated Targets, by Major Nicholas J. Clemens, USAF, 156 pages.

The proper application of new technology to the battlefield is critical. FAE technology makes possible a new type of weapon not now used by U.S. forces. Through the use of FAE weapons it is possible to create the blast environment associated with a low yield nuclear weapon over a confined area.

This study investigates the role of FAE weapons as an alternative to low yield tactical nuclear weapons in attacks on targets that are vulnerable to

air blast effects. Nuclear strategy and doctrine are reviewed and the impact of replacing low yield tactical nuclear weapons with FAE weapon is discussed.

The study concludes that FAE weapons are a viable alternative to tactical nuclear weapons at the tactical and operational levels of war.

859. Historical Simulation and the American Civil War, by Major Charles D. Collins, Jr., USA, 199 pages.

This analysis examines the validity of using miniature wargaming to study the American Civil War. The analysis specifically examines the miniature wargame rules, STARS*N*BARS III. The goal is to determine whether Civil War combat can be accurately simulated with miniature wargaming.

The study first examines the simulation's rule mechanics to determine their historical soundness. Infantry, cavalry, and artillery combat are each examined in three sections: unit organization, maneuver, and firepower. Each section is subdivided into three areas for analysis. First, an overview of how the section is simulated; second, an historical overview of the section; and finally, a determination of historical accuracy.

The rules are then applied in simulating two historical Civil War battles. The battle of New Market is gamed as a controlled reenactment the results of which are compared against the actual battle. The battle of Cedar Mountain is executed as a free-flowing wargame to evaluate historically.

The overall conclusion of the study is that, although not exact, acceptable accuracy can be achieved in simulating Civil War combat. Wargaming can be used to study history. In historical simulations, gaming and history complement each other in building a more complete understanding of the period's warfare.

860. The Role of the National Training Center During Full Mobilization, by Major Edward P. Donnelly, USA, 212 pages.

This study proposes a role for the Army's National Training Center at a state of Full Mobilization. Current plans for mobilization disestablish the manpower resources for the National Training Center at Fort Irwin, CA upon declaration of a state of full mobilization in event of war or other national emergency. It is hypothesized that these resources may have some better value if applied to assisting in the mobilization of the Army National Guard's four heavy divisions.

Study of past mobilizations reveal negative trends in the areas of personnel and training readiness of mobilizing reserve component divisions. It has proven increasingly difficult for reserve component forces to demonstrate adequate levels of individual and unit task performance proficiency when called upon to mobilize. Additionally, personnel turbulence has caused pre-mobilization training readiness assessments to be invalid instruments for predicting post-mobilization readiness.

Current training and mobilization doctrines address some, but not all, identified trends. Resources at the National Training Center have the potential to correct the remaining deficient trends. Possible full mobilization roles for the National Training Center and its resources are proposed by this study. Additionally, recommendations for future study are suggested.

861. Army Frocking: Does it Increase Job Effectiveness and Morale?, by Major William Cutter Dorman, USA, 83 pages.

This study examines the Army's frocking policy and evaluates its impact on the job effectiveness and morale of officers. The study reviews and compares current policies of the Department of Defense and each of the Armed Services, showing a uneven application of frocking across the services. The study found that, except for officers identified for command positions, the Army does not aggressively seek out officers to flock.

Evidence taken from previous research shows which factors have the greatest impact on job effectiveness and morale. A sample survey of the Command and General Staff Officer's Course Class 1990-1991, replicating previous work conducted at the Air War College, provides insights into current perceptions and attitudes on frocking. The study ties the evidence from the previous research to the sample survey and shows that frocking increases both job effectiveness and morale.

The study recommends that the Army expand the practice of frocking officers up to the legal limits established by Department of Defense and Congress.

862. On Seeing the Battlefield: Defining the Tactical Commander's Needs, by Captain Randal A. Dragon, USA, 257 pages.

This study investigates the need for voice and enhanced visual devices to increase the heavy maneuver brigade staff's ability to assist the commander to "see battlefield." Command and control (C2) theory and C2 process models are reviewed to provide a basis for understanding the fundamentals of command and control. The implications of current and future warfighting doctrine establish C2 system design criteria.

Of primary important to future system design are the current capabilities of battle staffs to meet the commander's needs. An analysis of NTC results reveals performance indicators and associated deficiencies which are used to define a set of functional requirements.

A review of the capabilities and limitations of the Maneuver Control System (MCS) demonstrates that this system, once fully implemented, will meet many of the identified requirements. A review of the potential for integrating voice and enhanced visual devices identifies areas where these technologies might address some of the requirements.

The findings of the study reveal that (a) the best application for voice technology is to provide for rapid, hands-free data entry and (b) hand-held (or helmut mounted) visual displays offer the added advantage of receiving MCS products at remote locations thereby increasing the user's ability to "see the battlefield."

863. Smoking Versus Nonsmoking and Army Physical Fitness Test, by Major Joan P. Eitzen, USA, 65 pages.

This study determines the difference in Army Physical Fitness Test (APFT) scores among smoking and nonsmoking students attending the Command and General Staff Officer's Course (CGSOC) 1990-1991.

This study examines APFT scores in three different events as well as total scores. The three events are push-ups, sit-ups, and a 2 mile run. Scores of current smokers, those who have recently quit smoking, and nonsmokers are evaluated. This study clearly shows a significant different between APFT scores among smoking and nonsmoking students and implicates smoking as detrimental to physical fitness when using APFT scores as a measure of fitness.

This research project contributes to the knowledge of smoking and its link to physical fitness in this limited population using the APFT scores as the unit of measurement. Physical fitness affects overall mental and physical health, and physical readiness. Decreased physical fitness implies decreased endurance on the battlefield and this may impact overall military readiness. This is an important area to evaluate because it may have an overall effect on the future leaders of the military. The results of this study may also help to predict the future health of the current forces and related health care costs.

864. Union and Confederate Infantry Doctrine in the Battle of Chickamauga, by Major Raymond Scott Eresman, USAF, 182 pages.

This study investigates whether the infantry doctrine used by the Union and Confederate armies in the Battle of Chickamauga followed published doctrine and determines what effect infantry doctrine had on the battle.

Beginning with a review of each side's formal doctrine, the study divides the battle into sixty-eight engagements and focuses on organization, formations used, terrain, use of skirmishes, engagements distances, use of breastworks, and engagement results to determine the doctrine used and its impact on the battle.

The armies' organizations and formations indicate that each used a different doctrinal source; Union forces appeared to use a Brigadier General Silas Casey's manual while the Confederates used Lieutenant General Winfield Scott's manuals. Casey's doctrine gave the Union army greater potential flexibility within their brigade, division, and corps formations, but the cost of that potential was less combat power in the line of battle and vulnerability on the flanks.

Engagement analysis indicates that both sides deviated from tactics by fighting prone during heavy firefights. Union breastworks in this battle were almost invulnerable. The final conclusion is that while initial engagement distances were largely determined by terrain, minimum ranges seemed to be influenced by the increased lethal range of the rifled musket.

865. Joint Force Fire Support: Who is the Coordinator, by Major Allen C. Estes, USA, 136 pages.

This study establishes guidelines for military planners to consider when employing combat heavy engineer battalions on nation assistance projects. The guidelines are based on analyzing the theories of nation assistance, assessing the capabilities and limitations of the combat heavy engineer battalion, and studying lessons learned from nation assistance projects completed in the last decade.

National assistance is examined from the standpoint of helping a host nation to become self sufficient by teaching people to help themselves, of countering an insurgency, and of furthering the national interests of both the host nation and the United States. The capabilities and limitations of combat heavy engineer battalions are assessed by looking at the organization, training, personnel, skills, and assigned equipment of these units. The Armed Forces Component System is discussed for use on nation assistance projects. The specific case studies include: AHUAS TARA 89 in Honduras, Dirkou Airfield in Niger, Camino de la Paz 88 in Costa Rica, U.S. Army Corps of Engineer projects in Saudi Arabia, Task Force Rock Eagle in Belize, Operation "No-problem" in Jamaica, civic action teams in Panape, Fuerzas Unidas 89 in Bolivia, and school construction in Bangladesh.

866. Does the Air Force Practice Its Doctrine? A Limited and Focused Air Campaign Concept, by Major Edward J. Felker, USAF, 140 pages.

This study explores the U.S. Army and Air Force doctrinal base for building a focused and limited air campaign. The concept presented focuses on operational art and directly achieving the joint force commander's objectives versus generating air sorties to service targets.

The current air apportionment and allocation system fosters equitable division of air power among all ground commanders. This study explores how air power can be effectively massed to achieve the broad operational objectives, rather than simply divided to address all tactical considerations.

The study focuses on operational art in applying air power against the what and when of the battle -- the operational center of gravity, rather than how and where reaction to enemy movements. This study promotes the return to the July 1943 U.S. War Department Field Manual 100-20, Command and Employment of Air Power idea of prioritization of air missions -- first, air superiority, then isolation of the battlefield, and finally support of ground forces. By fostering a doctrine based on operational art, the Air Force will be better able to maximize air power's inherent capabilities of speed, range, and flexibility.

867. U.S. - Soviet Combined Operations: Can We Do It?, by Major Phyllis Gerben, USA, 175 pages.

This study investigates the feasibility of conducting U.S - Soviet combined operations from a military perspective. The emphasis is on identifying differences and similarities between U.S. and Soviet operational level of war concepts and coalition principles. Also investigated are the historical examples of U.S. and Soviet military cooperation during World War II. Finally, two case studies are included to provide examples of each nation's current application of their combined operations concepts. For the U.S., the example is the multinational coalition of Desert Shield/Storm (1990-1991); for the Soviets, it is their intervention in Afghanistan (1979-1989).

There are significant differences between U.S. and Soviet approaches to the operational level of war and coalition warfare which have the potential to adversely affect the outcome of military operations. However, U.S. concepts appear to exhibit sufficient flexibility to mitigate the effects of these discrepancies. The study contains the details of these differences, their potential effects on the outcomes of military operations, postulated command and control and liaison structures for the conduct of combined operations between the U.S. and the Soviets, and recommendations for further study.

868. The Chickasaw Bayou Campaign, by Major Gray M. Gildner, USA, 181 pages.

This study investigates the decisive factors that affected the Chickasaw Bayou Campaign, General Ulysses S. Grant's first effort to seize Vicksburg.

By December 1862 Grant's forces had fought into north central Mississippi. Simultaneously, Major General John A. McClernand had convinced President Lincoln to allow him to command an independent amphibious force to operate on the Mississippi against Vicksburg. Grant hastily organized his own river expedition under Major General William T. Sherman to seize Vicksburg. The resulting campaign ended in the repulse of Union forces at Chickasaw Bayou.

At the strategic level the threat of the amphibious force under McClernand decisively affected Grant's ongoing campaign. The Confederate reorganization of the western command structure was instrumental to Confederate success. At the operational level Confederate cavalry raids on Grant's line of communications caused Grant to retreat, enabling the Confederates to focus all efforts against Sherman at Chickasaw Bayou. At the tactical level, Sherman's forces lacked a sense of purpose and committed

blunders throughout the battle. Confederate battle tactics were characterized by a strong sense of urgency and excellent generalship.

Grant concluded from the campaign that fixed lines of communications were unnecessary in supplying his army. The Confederates were lulled into a false sense of security which ultimately contributed to their defeat at Vicksburg.

869. "Ready or Not, Here Come the Lieutenants!", by Major Marc G. Girard, USA, 150 pages.

This study determines if the U.S. second lieutenant meets the Army's expectations for Military Qualification Standard I (MQS I) (Precommissioning Requirements) proficiency when he reports to the Officer Basic Course (OBC). Through questionnaire results from OBC students and interviews with the Army's commissioning sources and service schools, this study concludes that lieutenants, as a group, are not meeting the Army's expectations.

This study explains that lieutenants are not meeting MQS I standards for several reasons. They do not understand what MQS I is and their role in the MWS system. The gap of time between commissioning and when the individual officer reports to OBC contributes to a degradation in MQS I task proficiency. Finally, commissioning sources are not ensuring MQS I proficiency upon commissioning.

This study makes several recommendations for improving the execution of MQS I at the commissioning sources. The recommendations include requiring the Department of the Army and the commissioning sources to put more emphasis on the successful completion of MQS I at each commissioning source. Additionally, feedback and dialogue must improve between the commissioning sources and service schools. Finally, certification test prior to commissioning must be adopted to ensure MQS I proficiency upon commissioning.

870. Factors Affecting Joint Cooperation During the Civil War, by Lieutenant Colonel Timothy R. Hanley, USN, 135 pages.

This study is a historical analysis of selected joint Army - Navy operations conducted along the East Coast during the American Civil War. It begins with a description of the ante-bellum conditions of the Army and Navy and the organizational structure of the War and Navy Departments. Three joint operations are analyzed; the Fort Sumter Relief Expedition of 1861, the Port Royal Expedition of 1862, and the Charleston Campaign of 1863.

In none of the joint operations covered by this study was there a unified command structure between the Army and Navy. Mutual support between the services was dependent upon voluntary cooperation between the respective service commanders.

This study determines what factors influenced the degree of cooperation between the service commanders of joint operations during the Civil War. Many of the factors which either facilitated or hindered joint cooperation during that time could affect contemporary joint operations, particularly in the early stages before a unified command structure is established. An appreciation of those factors is both helpful in understanding the outcome of Civil War joint operations as well as providing some insight into the problems faced by contemporary commanders in a joint environment.

871. Joint Force Fire Support: Who is the Coordinator?, by Major Frederick S. Gisler, USA, 77 pages.

This study investigates who should fill the role of the Joint Fire Support Coordinator (JFSCOORD) for the joint force at echelons above corps

(EAC). Emerging joint doctrine clearly specifies the need for a JFSCOORD. Yet, this doctrine omits just who should fulfill this duty.

In pursuit of identifying the individual best qualified for the job of JFSCOORD, this study addresses four candidates. The candidates are: the Joint Force Air Component Commander (JFACC), the Operations Director (J3), the Plans and Policy Director (J5), and a special staff officer trained and experienced in fire support planning and coordination.

Before specifically addressing the merits of each candidate, this study develops a job description to serve as a standard with which to discern the inherent advantages and disadvantages of each candidate's qualifications. The basis of the job description's synthesis is the U.S. Army's Command Estimate Process of decision making. Moreover, this methodology serves as the protocol used to identify the best qualified JFSCOORD candidate.

As the conclusion, this study finds the JFACC is the best qualified candidate for the job of JFSCOORD.

872. Henry Bouquet: A Study of Three Military Campaigns in North America, 1758-1764, by Major Mark Patrick H. Hannum, USMC, 127 pages.

Henry Bouquet, a professional Swiss officer, served in the British Army from 1756-1765 in the 60th or Royal American Regiment. Bouquet's service to the Crown involved his participation in three major campaigns in North America. During 1758 Bouquet served as the second-in-command to Brigadier General John Forbes in an expedition to secure from the French Fort Duquesne, later renamed Fort Pitt.

In 1763, Bouquet returned to Fort Pitt, personally organizing and leading the relief column which broke the Indian siege of that critical frontier installation during Pontiac's rebellion. This action resulted in the Battle of Bushy Run. In 1764, Bouquet conducted an expedition against the Delaware and Shawnee Indians in the Muskingum River Valley of Ohio. In this campaign he succeeded in ending Indian resistance in the region without having to fight in a single battle or engagement. Bouquet is generally evaluated by historians as a successful Indian fighter. An analysis of his campaigns reveals the fact that his success resulted from his performance as a competent and professional military leader.

This study evaluates Bouquet's three campaigns. It relates Bouquet's performance to leadership, warfighting and campaigning concepts outlines in modern military doctrine.

873. Logistical Support of the China Relief Expedition, by Major William C. Harlow, USA, 220 pages.

This thesis studies the logistical support of United States forces in China during the Boxer Rebellion. The thesis examines the crucial logistical aspects of the operations of Army, Navy, and Marine forces during the Boxer Rebellion.

When the Boxer Rebellion arose in the Spring of 1900, the safety of the foreign communities in Beijing (Peking) and Tianjin (Tientsin) was threatened. An international force, including Americans, was sent to rescue the foreigners and restore order in China.

Initially, our military and political leaders did not have a clear picture of the scope of the Boxer Rebellion. This resulted in the initial force, composed of naval landing parties being out numbered and incapable of accomplishing the mission. The naval landing parties also had limited logistics as they relied only on what was aboard their ships.

Additional Army units were sent to China from the Philippines and the United States. These forces eventually rescued the besieged foreigners and restored order to China. Their logistics support is an excellent example of 19th Century logistics doctrine modified to meet the realities of operations in China. American logistics during the Boxer Rebellion also provide insights into the nature of logistics while conducting coalition warfare.

874. *Tactical Evolution in the Iraqi Army: The Arabian Island and Fish Lake Campaigns of the Iran-Iraq War*, by Major Michael E. Hoffpauir, USA, 158 pages.

Much has been written regarding Iraqi wartime activities at the strategic and operational levels during the Iran-Iraq War (1980-1988), but few of these works address tactical operations. This thesis fills a small portion of that void by examining the evolution of selected combat tactics used by Iraq's ground forces in the battle of Abadan Island (1980) and Fish Lake (1987).

From its limited pre-war combat experience, the Iraqi army developed tactics, techniques, and procedures to fight in desert and mountainous environments. When the Iraqi army moved across the Iranian frontier in 1980, significant shortcomings surfaced in many aspects of its combat operations - command and control were poor, and commanders did not appear to understand the relationships between tactics, terrain, and mission. After its dismal showing, the army executed a static defense strategy for the next several years.

Then in early 1987, the army rebuffed Iran's most determined offensive of the war, showcasing an increasing flexibility to handle more complex tactical situations and setting the stage for the remarkable successes enjoyed in 1988 that brought the conflict to a close.

875. *A Special Force: Origin and Development of the Jedburgh Project in Support of Operation Overlord*, by Major Wyman W. Irwin, USA, 211 pages.

This study examines the history of the Jedburgh project from the origin of the concept, through development of the Jedburgh plan, to final preparations for deployment. It includes a study of the recruitment process used to man the force and the training program undertaken to prepare the Jedburghs for their unconventional warfare (UW) mission.

The Jedburgh plan provided for 100 three-man teams composed of American, British, French, Belgian, and Dutch special forces personnel. These teams operated well behind German lines, with the primary mission of coordinating the activities of the various resistance elements to ensure that their operations supported the overall Allied campaign effort.

These operations, indeed the very concept of a force designed to work directly with partisans in an occupied country in support of conventional forces, remain significant because they are the doctrinal basis for our current special forces. Today's UW doctrine centers increasingly around the support of revolutionary insurgents in a low intensity conflict environment. U.S. Army Special Forces leaders must understand the different and complex nature of conducting UW with partisans in a mid to high intensity conflict, though, if they are to remain prepared to conduct these operations. The amount of lead time required to develop such a capability will probably not be available in future conflicts.

876. *Medical Support for the American Expeditionary Forces in France in the First World War*, by Major Jonathan H. Jaffin, USA, 208 pages.

World War I represents the first time that the United States Army Medical Department successfully supported a mass army overseas. The system

established served as a model for those used in subsequent wars. By studying the support for the American Expeditionary Forces (A.E.F.), today's military planners can better anticipate medical problems and provide solutions.

Medical support for the A.E.F. evolved from that of the Civil War and the Spanish-American War. The years from the end of the Spanish-American War until the start of World War I were ones of reform and preparation for the Medical Department.

The A.E.F. established medical support using regular Army units and ones raised by the Red Cross. However, the demand for infantry and machine gun units left the Medical Department with a severe shortage of personnel and units. The A.E.F. adjusted by sending surgical teams from the base hospitals to the evacuation and field hospitals. Similarly, hospitals expanded far beyond their anticipated capacity. In the grueling battles of war, the system, although stressed, worked. This success showed the Medical Department could provide medical support to an American Army overseas.

877. Buffalo Soldier: The Formulation of the Ninth Cavalry Regiment, July 1866 - March 1867, by Major Harry E. Johnson, Sr., USA, 112 pages.

This study documents the Ninth Cavalry Regiment's history from its creation on July 28, 1866 through its deployment west in March 1867. Previous historians have not chronicled, in detail, the early history of the Ninth Cavalry Regiment. This study fills part of that gap.

The Ninth Cavalry was one of six Black Regular Regiments created by the Reorganization Act of 1866. This study focused on the mustering, formation, and training of that regiment. The regiment was garrisoned in New Orleans, Louisiana. All officers assigned to the new regiments had to meet strict screening requirements. Most of the recruiting for the regiment's Black soldiers was done in the southwest portion of the United States. The unit's officers often complained that the troops were illiterate and difficult to train.

The thesis concludes there were not enough officers available to supervise or train the enlisted soldiers properly. Literacy was not the unit's biggest problem. Despite the lack of officers, the Ninth Cavalry Regiment was the first of the Black Regular Regiments to deploy, en masse, as a part of the peacetime United States Army.

878. The OH-58D Kiowa Warrior in the Regimental Aviation Squadron, by Captain Thomas C. Johnson, USA, 131 pages.

This study is a comprehensive analysis of the organization, missions, and aircraft of the regimental aviation squadron of the armored cavalry regiment and how the scheduled fielding of the OH-58D Kowa Warrior will affect it. To determine the impact of the OH-58D Kowa Warrior, the study analyzes the full range of reconnaissance, security, offensive and defensive missions which the regimental aviation squadron must perform. It then analyzes and compares the OH-58C, AH-1F Cobra, and OH-58D Koiwa Warrior and the capabilities and limitations of each. It then compares the existing "L" series TO&E to a proposed TO&E which incorporates the Kiowa Warrior.

The study concludes that the OH-58D Kiowa Warrior will offer significantly increased capabilities to the armored cavalry regiment. The most profound effect is the true 24 hour capability the regimental aviation squadron will gain. The Kiowa Warrior's ability to scout effectively day or night and under adverse weather and battlefield conditions will quickly make it an indispensable asset to the regimental commander. The main challenge which aviation commanders will face is the management of crew endurance and sustainment for an aircraft which is certain to be in high demand.

879. A Historical Perspective of Special Operations Forces as an Instrument of Strategy, by Major Gregg D. Jones, USA, 130 pages.

This study investigates the historical utility of Special Operations Forces (SOF) as instruments of national military strategy. The research concept employs the study of a representative historical example of each of the five current doctrinal SOF missions. The intent is to both assess the effectiveness of the SOF efforts at the time that they occurred, and to derive continuing themes, if appropriate, for SOF strategic employment in the future.

The study concludes that SOF strategic employment, as represented by the operations examined, has been largely effective, though not without setbacks. Further, there are operational and organizational components that repeatedly are central to success. Among these are the close integration of military operations into the larger political context, the early provision of appropriate external support resources, and the presence of sufficient and appropriately trained special operators to complete the assigned mission. While these components do not represent a checklist for the success of a strategic SOF operation, they do represent realities that historical experience suggests will be of continuing importance.

880. Noncommissioned Officer Reclassification - A Roadblock to Success?, by Major John J. Jordon, USA, 105 pages.

This thesis presents research concerning the effects of noncommissioned officer (NCO) reclassification upon NCO leader development. It includes a review of relevant literature on the subject area. The thesis also includes an original study of 200 NCO within Military Occupational Specialty 13M (Multiple Launch Rocket System Crewman) that researched the leader development impact of NCO reclassification. The results showed that there were significant differences between the populations of reclassified and non-reclassified NCO, but that these differences did not seem to affect the job performance or technical competence of either population. The thesis makes recommendations for additional research into the effects of reclassification with the ultimate goal of establishing a better understanding of this personnel management tool, and improving its effectiveness.

881. The Australian Light Horse: A Study of the Evolution of Tactical and Operational Maneuver, by Major Edwin L. Kennedy, Jr., USA, 181 pages.

This study analyzes the actions of the Australian Light Horse in the Middle East campaign during World War I. It shows the basis for their approach to war and how these techniques were successful by adapting to the circumstances of the situation. The Australian Light Horse demonstrated the traits of initiative and flexibility during the campaign in Egypt and Palestine by changing their modus operandii from mounted infantry to cavalry, a seemingly minor shift semantically, a major shift doctrinally.

Their adaptability to the situation in the desert was largely responsible for their tactical success and played a major part in the success of the operational maneuver of the mounted forces under General Allenby during the last year of the war. Most importantly, the lessons learned from their actions sustained the advocates of horse cavalry doctrine long after the apparent usefulness of the horse on the modern battlefield had diminished in importance.

882. Jedburgh Operations: Support to the French Resistance in Central France from June Through September 1944, by Major Michael R. King, USA, 149 pages.

This study is a historical narrative of Jedburgh teams Hugh, Hamish, Ian, Andy, Ivor, and Alec, which operated in Central France from June through

September 1944. The teams consisted of two officers, one French and the other American or British, and one noncommissioned officer wireless telegraphy (radio) operator. Jedburghs, as the team members were called, were all volunteers and specially trained soldiers in the art of guerrilla warfare. Their purpose was to support the Supreme Headquarters Allied Expeditionary Force (SHAEF) during its campaign to liberate northwestern Europe, beginning with operation OVERLORD in France.

This study explains the origins, purpose, and missions/tasks of the Jedburgh project. The focus of this study, however, is of the actual operations of six Jedburgh teams. I documented the activities of these teams in order to recount their achievements and analyze their effectiveness. As will be seen, five of the six Jedburghs teams were effective. Additionally, a review of the Jedburgh operations validates current Special Forces doctrine as it relates to unconventional warfare and special reconnaissance.

883. The North Africa Campaign: A Logistics Assessment, by Major Mark D. Kitchen, USA, 113 pages.

This study analyses the logistics operations of the North Africa Campaign. The thesis covers wholesale and retail level preparedness and execution of the U.S. ground force sustainment following the Allied landings in northwest Africa in November 1942. The analysis concludes with the German surrender in Tunisia in May 1943.

The logistical efforts of the campaign are studies against the framework of modern AirLand Battle doctrine. The functional areas of manning, fueling, arming, fixing, and transporting are assessed by the doctrinal imperatives of anticipation, integration, continuity, responsiveness, and improvisation.

884. An Analysis of an Antipersonnel, Direct-Fire, Time-Fuzed, Bursting Munition Weapon System, by Major William K. Klimack, USA, 142 pages.

This study investigates the effectiveness of employing a medium caliber, vehicular-mounted, weapon system against personnel using time-fuzing to achieve air bursts. This system would be affected differently by exterior ballistic errors than current point-detonating (ground burst) systems.

New errors are time-fuze error and error from deviation from optimum height of burst. Further, the time-fuzed system is also affected by time of flight variations, range estimation errors, and bias and dispersion of the ammunition. While an air burst system out performs a comparable ground burst system under optimum conditions, large errors may degrade performance of the former below the latter. Therefore timefuzed systems must operate within the performance parameters established by point-detonating systems.

This study examines these errors for a 40mm cannon system. These errors are compared to the current M242 25mm cannon and the M240C coaxial machine gun of the Bradley Fighting Vehicle Systems. Increased effectiveness of the air-burst was documented. Attempts using various analytical techniques failed to identify the largest acceptable error limits. Despite this error limits derived through examination of current systems are proposed for this postulated system.

885. Joint Communications in Support of Joint Task Force South During Operation Just Cause, by Captain Jared A. Kline, USA, 240 pages.

This study investigates and analyzes the provision of tactical and strategic communications in support of Joint Task Force South (JTF-South) during Operation Just Cause, the American invasion of Panama during the period 20 December 1989 - 12 January 1990. The purpose of the study is to present a detailed analysis of communications support actually provided to a Joint Task

Force engaged in a contingency operation, while recording for posterity the actual history of what occurred in this connection.

Operation Just Cause was conducted in a country that had known a long and continuous U.S. military presence. An extensive "fixed-station" or strategic telecommunications infrastructure therefore existed upon which JTF-South could build their tactical communications networks. This was a critical factor in the quality and quantity of communications means available to JTF-South. Single channel radio was the most important tactical means of command and control communications, the Joint Communications Electronics Operating Instructions (JCEOI), and the use of single communications security (COMSEC) variable throughout the entire theater ensured the reliability of radio communications, in spite of the risk to COMSEC. The tactical multichannel network, initially a weak area as a result of inadequate systems and technical control, was made useful by bringing a large contingent of tactical systems control officers and sergeants from Fort Bragg to Panama four days after the initiation of open war.

This study explains that communications in support of JTF-South, while they were a brilliant success, were not perfect, and that lessons for future operations may be derived from a study of the actions of the men and machines that provided communications during Operation Just Cause.

886. Logistic Support of an Armored Division in a Deep Attack, by Major Anthony H. Kral, USA, 109 pages.

This study examines the capability of an armored division to be sustained, relying only on its organic assets, in a five day deep operation that requires the division to maneuver seventy-five kilometers forward of the FLOT. This investigation includes a study of sustainment concepts and problems experienced by the 4th and 6th Armored Divisions, assigned to 3d U.S. Army, during the pursuit through France in August and September 1944. This examination establishes the sustainment requirements for the deep attack operation and analyzes the ability of the modern armored division to satisfy these requirements. The study analyzes four alternatives to supplement the division's organic capability to support the deep attack operation.

This investigation reveals that an armored division can support a division-size deep attack, using only its organic support assets, for fifty-four hours before exhausting its fuel supply, followed by shortages in both water and dry cargo. To complete the five day operation, an armored division must be augmented by a combination of the following: (1) attachment of logistic support systems from crops, (2) sustainment over air lines of communication, (3) sustainment over ground lines of communication, or (4) sustainment through the application of scavenger logistics.

887. Fact or Fiction? Colonel Joshua L. Chamberlain at Gettysburg as Depicted in Michael Shaara's, The Killer Angels, by Major George A. Latham II, USA, 143 pages.

This study analyses Michael Shaara's portrayal of the Battle of Gettysburg from the Northern perspective. It briefly describes how the U.S. Army uses the novel The Killer Angels formally and informally to conduct leadership training and to study the Battle of Gettysburg. Michael Shaara's career and background as an author as well as how he researched and wrote the Pulitzer Prize winning novel are described. The strategy of the Northern and Southern senior leadership resulting in the Battle of Gettysburg is analyzed. The background of the 20th Maine and its colonel are studied for their significance in the outcome of the battle. A comparison of events leading to Gettysburg as well as the actual fight on 2 July 1863 for the Little Round Top is conducted to portray historical inaccuracies and to reinforce accuracies. Events as they relate to Colonel Joshua Chamberlain's character, leadership

and actions are the focus for the thesis' analysis. The study develops an analysis useful to supplement The Killer Angels in Army leadership instruction.

888. Fire Planning for Air Assault Operations, by Major Loyd Frank Lawing, Jr., USA, 73 pages.

This is an in-depth analysis of the doctrine, tactics, techniques, and procedures used by forces of the United States Army to plan fires for air assault operations. The information gathered to complete this thesis was drawn from a variety of sources to include a model (the TRADOC Common Teaching Scenario) and the best information available from Operation Desert Storm.

The conclusions drawn from this study include: A doctrine for fire support does exist, but it is difficult to find and use because it is not found in one place. There is a great difference in opinion of the best way to control the fires of an air assault operation, i.e., procedural control vs. positive control. There are great discrepancies in how to conduct fire support for air assault operations, so it is very difficult for the artillery to establish tactics, techniques, and procedures to support air assault operations. There is no standard procedure currently being used, or espoused, by the U.S. Army for fire support in air assault operations.

The principal conclusion of this study is that there is a need to adopt standard procedures for fire support for air assault operations. This standard procedure for fire support for air assault operations will be used throughout the U.S. Army.

889. From Concepts to Programs: The Army's Long Range Research, Development, and Acquisition Plan, by Major Gary A. Lee, USA, 101 pages.

This thesis investigates the Army's Long Range Research, Development, and Acquisition Plan (LRRDAP) -- a key product of the Army's Planning, Programming, Budgeting, and Execution System (PPBES) -- to determine its future utility to PPBES and the Army's senior decision-makers. This thesis provides a direction for continued research or debate by addressing issues that have been experienced during previous planning phases. It was structured with the assumption that fiscal resources will remain constrained.

The LRRDAP focuses research, development, and acquisition programs on solving future battlefield needs derived from warfighting concepts. To be credible, the LRRDAP must meet the need to relate anticipated battlefield material requirements to be requested resources competing for appropriations. To this end, the requirements must be packaged into affordable and defendable programs to survive the exhaustive PPBES reviews.

The issues include how fiscal guidance should be applied to planning assumptions; an evaluation of the vertical interdependency within the planning phase of PPBES and PPBS; an evaluation of the horizontal interdependency between the planning and programming phases of PPBES; and, a review of the Army, Acquisition Executive's and Program Executive Officers' roles during the planning phase of PPBES for compliance with the Goldwater-Nichols Department of Defense Reorganization Act of 1986.

890. The Role of Union Cavalry During the Chickamauga Campaign, by Major John J. Londa, USA, 142 pages.

This study is a historical analysis of the effectiveness of Union cavalry during the Chickamauga campaign. General William S. Rosecrans' desire to develop Union cavalry in the Army of the Cumberland into an effective counter to superior Confederate cavalry is compared to the results achieved during the Chickamauga campaign. The Chickamauga campaign was the first major

test of the consolidated Cavalry Corps in the Army of the Cumberland. The contribution of the cavalry failed to meet expectations in developing intelligence on General Braxton Bragg's Army of Tennessee and in influencing the outcome of the two day battle.

First, this investigation addresses Rosecrans' operation plan for the Chickamauga campaign and what role he envisioned the cavalry would play. Secondly, it describes the state of Union Cavalry in August 1863 in terms of organization, strength, training, and leadership. Analyses of operations by the cavalry focuses on how the cavalry were integrated into the campaign, the success of their missions, and strengths and weaknesses in their employment. Finally, this study attempts to answer the question "How could the Union cavalry have been better utilized during the campaign?

This study concludes that the improvements in the Union cavalry in terms of arms and equipment were not matched by development of senior cavalry leaders that had a clear vision of how to employ the instrument of their own making, a consolidated Cavalry Corps.

891. The Evolution of U.S. Army Doctrine: From Active Defense to AirLand Battle and Beyond, by Major Jeffrey W. Long, USA, 326 pages.

This study explains the recent evolution of U.S. Army doctrine. During the last two decades, the Army revised its capstone manual -- FM 100-5, Operations -- three times: in 1976, 1982, and 1986. A fourth revision is underway in 1991. This thesis chronicles the change in doctrine by analyzing the difference between the four versions of FM 100-5. It then employs five external factors (the Army's organizational interests, the process of doctrine development, the bureaucratic politics within the Army, and the cognitive psychology of the Army's leaders) to explain the recent change in doctrine.

The thesis concludes that in 1976 constraining external factors forced the Army to adopt a doctrine that was at odds with its internal needs. The early Reagan years, in contrast, permitted a return to a doctrine that better served the Army's interests. Though environmental changes call that doctrine into question in the nineties, the Army resists significant changes to a doctrine addresses organizational preferences better than operational requirements.

892. Towards a National-Building Role for the Armed Forces in Kenya, by Major P. W. Macharia, Kenya Army, 150 pages.

The historical antecedents of armed forces' participating in nation-building demonstrate an ongoing interdependence between society and the military which extends beyond the traditional role of preserving sovereignty.

This study investigates the plausibility of a nation-building role for Kenya's armed forces in the future. It draws on historical parallels and case studies to advance the view that Kenya's armed forces need not confine their role in society to traditional military pursuits.

By analyzing the Kenya government's development strategies, the study develops some themes for possible adoption by the armed forces. The study discusses the issues of professionalism, the socio-political context, and regional security to emphasize the primacy of the national defense mission. Finally, it evaluates resources which may be made available to support the expanded role.

The study concludes that there are compelling reasons, relating to national security and community-military relations, for Kenya's armed forces to adopt a nation-building role. What is more, the study contends there are adequate resources to perform this role. However, the author recommends

further study of the issue, internally, to account for the many socio-political forces that may influence the adoption of such a role, and assess all its ramifications.

893. The Effect of Interior Design Improvements on the Quality of Learning for Graduate Level Military Officer Students, by Major R. Douglas Maurer, USA, 197 pages.

This study determined the effect of interior design improvements on student perceptions about the physical learning environment for the United States Army Command and General Staff Officers' Course from August 1990 to June 1991. In December 1990, officers who had attended the same six courses in two adjacent classrooms were surveyed about their physical learning environment. One classroom was configured in a conventional manner; whereas, the second classroom was renovated in the spring of 1990. Renovation work included improvements to the classroom's acoustics, lighting, climate control system, and electrical circuitry.

894. Strike Operations: Contingency Operations with Light-Heavy-Special Operations Forces, by Major Michael Thomas McCarthy, USA, 709 pages.

This study seeks to identify the doctrine, tactics, and techniques unique to employment of light, heavy, and SOF as a mixed force. The doctrine, tactics, and techniques are applied to a likely contingency scenario of a "Strike Operation" to provide a base model for future employment of mixed forces. The review of literature demonstrates a critical void in doctrine, tactics, and techniques for employment of light and heavy forces as well as conventional and special operations forces. Existing literature does not address the most likely method of force employment the United States Army will use to fight with. This thesis identifies unique aspects of each battlefield operating system for each component element of the force mixture. Also included are planning considerations to overcome the lack of doctrine, tactics, and techniques necessary for addressing those aspects. This thesis also contains a model for conducting a "Strike Operation" with light, heavy, and SOF elements.

895. The Impact on the Intelligence Community of a Military Officer as the Director of Central Intelligence, by Major Daniel A. McCusker, USAF, 139 pages.

Given the Director of Central Intelligence's (DCI) necessity to allocate Intelligence Community assets, including military intelligence assets; and, given the DCI's responsibility to determine the Intelligence Community's priorities to meet future challenges; the purpose of this thesis is to determine if the DCI should be a military officer.

This thesis uses historical examples and research to establish the Intelligence Community's structural, leadership, and budgetary parameters and future challenges that define the DCI's operational environment. The study uses these parameters to examine the positive and negative factors of a military officer and of a civilian leader as the DCI. The study establishes a matrix using DCI characteristics, incumbent background, and success or failure to determine a relationship between military officers and success.

The study determines that it does not matter if the DCI is civilian or military. The study indicates there is no correlation between successful leadership of the Intelligence Community and a military or civilian background. It determined that other discriminators are necessary and more important to the DCI's successful leadership of the Intelligence Community. They are: (1) willingness to actively engage the community issues; (2) longevity in the position; (3) leader credibility within, and outside, the

intelligence community; (4) an understanding of the intelligence community and how it operates.

896. Corps Level Command, Control, and Communications Countermeasures (C3CM), by Major Kevin P. McGovern, USA, 115 pages.

This thesis focuses on development of a Command, Control, and Communications Countermeasure (C3CM) planning architecture for corps level operations. Initially, the research describes previous uses of C3CM in recent wars and reviews the lessons learned with applications to the U.S. Army. The lessons learned from previous wars, provides a basis to analyze the U.S. Army corps level command and staff processes for countering enemy command, control, and communications (C3). Included, is an analysis of how C3CM components of maneuver, electronic warfare, targeting, deception, and operations security are integrated into a corps level operation. The analysis of the corps planning process assists in the formulation of a C3CM architecture for planning at the corps level that includes the support requirements of intelligence, communications, command and control, and training. The corps C3CM planning architecture developed is integrated into the corps planning process.

897. Field Artillery Doctrine Development 1917-1945, by Major Scott R. McMeen, USA, 90 pages.

This thesis examines the development of U.S. Army field artillery doctrine from 1917 to 1945. It compares field artillery organization, liaison methods, target acquisition methods, missions, command and control principles, and fire direction techniques employed in World War I, the anterior period, and World War II.

The study reveals the remarkable continuity of the artillery doctrine developed in World War I. In spite of tremendous technological change from 1917 to 1945, World War II artillery doctrine remained very similar to the doctrine of 1918. The study concludes that the basic principles of artillery doctrine established in World War I were the basis for artillery doctrine in World War II, and will probably remain the basis for future artillery doctrine.

898. Vertical/Short Take-Off and Landing Aircraft in a Future Force Mix for the United States Air Force, by Major Pitt M. Merryman, USAF, 129 pages.

This study investigates the role of vertical/short take-off and landing (V/STOL) aircraft in a future force mix for the United States Air Force (USAF) in light of an increasing dependence on deployability as opposed to reinforcing a forward presence as an element of national strategy. The combat effectiveness of V/STOL is shown through an examination of British Harrier operations during the Falklands War.

Two aircraft, the AV-8B Harrier II and F-16C Falcon, are analyzed and compared in terms of speed, range and flexibility in order to disprove the USAF's perception that V/STOL implies performance penalties in range and payload. The study proves the Harrier II can carry as much ordnance as an F-16 a greater distance. Speed differential between the two aircraft is negligible.

The increased basing and operational flexibility of a V/STOL aircraft should be realistically examined in determining a future force mix of tactical ground attack aircraft for the United States Air Force.

899. The Emerging National Military Strategy of Power Projection and the Army's Contingency Corps, by Captain Harry E. Mornson, USA, 104 pages.

This thesis examines the force structure of the Army's contingency corps in light of the National Military Strategy that is emerging in the early 1990s. The environment that guided this nation's strategic thinking changed significantly in 1989-90. The military strategy that is evolving as a result of this change depends on the ability of our armed forces to project power to a number of regions throughout the world. The Army's contingency corps is a military organization designed to execute rapid deployment in support of a strategy that relies on power projection.

After reviewing the strategic background, this thesis applies the CGSC methodology for regional force planning to identify a feasible solution to determine the combat forces that are assigned to the contingency corps. The force structure issue is complicated by the need to rapidly project enough combat power from the United States to defeat sophisticated threat military forces that are equipped with lethal, modern weapon systems.

The study concludes that a mix of combat forces, each with its unique capabilities and limitations, is required. The mix of forces provides for a great deal of flexibility and allows for one force to compliment another when properly employed. The proposed contingency corps force structure includes a light infantry division, an airborne division, an air assault division, a motorized regiment, and an armored cavalry regiment.

900. MSE and the Warfighter Exercise: An Approach, by Major Kurt G. Mueller, USA, 104 pages.

Computerized combat simulations have become an important source of training for senior Army leaders. One such simulation is the Battle Command Training Program's Warfighter exercise, a command post exercise presented as an interactive battle against a freeplaying opposing force.

Warfighter units are required to link command posts using doctrinal communications. Soon, Mobile Subscriber Equipment (MSE) will become the Army's primary Command, Control and Communications (C3) at the division and corps levels.

Currently, C3 in the exercise is treated as a neutral element of the game. This thesis investigates the introduction of Command and Control Communications Countermeasure (C3 CM) directed against MSE in future Warfighter exercises. The thesis reviews, C3CM, MSE, and Warfighter concepts. A Warfighter scenario is then developed which is used to present four options for C3 CM exercise play. An assessment is made and the best option is selected. The methodology developed in this study supports future efforts for the integration of C3 CM into the Warfighter exercise.

901. Hearts and Minds, Teeth and Nails; the Role of Civilian Self-Defense in Counterinsurgency Strategy, by Major John F. Mulholland, Jr., USA, 165 pages.

This study examines one particular component of counterinsurgency; the organizing and arming of rural populations paramilitary lines and integrating them into the overall counterinsurgency strategy. The concept of civilian self-defense forces (CDF) is studies in the context of a response to modern revolutionary insurgency.

This thesis validates the conceptual role of CDFs in counterinsurgency through a review of counterinsurgency theory and related literature. A case study of the American experience with the Montagnards of Vietnam in the Civilian Irregular Defense Program (CIDG) provides an historical validation of the concept relevant to American military history. Using criteria derived from the theoretical and practical examination of the CDF concept, the role of CDFs as a response to the on-going insurgency in El Salvador is studied and evaluated.

This thesis finds the concept of CDFs to be an essential component of counterinsurgency strategy when facing a insurgency movement. It also concludes that CDFs are not an important part of Salvadoran counterinsurgency strategy because of lack of commitment to the concept. Finally, the study offers recommendations concerning current U.S. Army counterinsurgency doctrine.

902. The Role of The AH-64 Apache in Close Air Support, by Lieutenant Commander John C. Nunley, USN, 189 pages.

Functional and doctrinal definitions of an references to CAS are vague and conflicting when attempting to describe the attack helicopter's role in CAS. The joint definition is generic enough to allow the AH-64 to perform CAS, but recent Army and Air Force doctrine tend to imply that CAS is an Air Force fixed-wing mission only and that attack helicopters do not do CAS. Other sources disagree. This thesis studies those definitions and develops a new definition of CAS that permits attack helicopter CAS operations on a tactical scale.

This thesis answers the questions, "Can the AH-64 perform CAS?" and "Should the AH-64 perform CAS?" in the affirmative, showing several areas where the AH-64 has advantages over the A-10 and the F-16 in performing CAS in a division area of interest.

Recommendations include a new definition of CAS, attack helicopters should have CAS as a mission, AH-64s should perform rear area CAS, and Air Force FACs and Army Scout pilots should be cross-trained to provide forward air control for aircraft from both services.

903. A Preliminary Examination of German Arms Transfer Rationales, by Major Charles K. Pickar, USA, 93 pages.

This study is an initial, country-level, analysis of the German government rationales for allowing the transfer of arms. The study divides arms transfer rationales into three distinct areas, political, economic and military. At present, there are no indications the German government is selling/transferring arms for military reasons.

Political rationales for transferring arms include international stature, national pride and influence. The political rationale is expressed in declaratory foreign, defense and industrial policy. The evolution of these policies, and their results, provides a perspective for future actions. The German government is starting to express an independent foreign and defense policy for the first time in the postwar era. This independence will figure in the decision to sell arms in the future although there is no evidence of present influence.

Economic rationales common to European countries include employment, lower unit costs (economies of scale), and arms-for-oil. Aggregate analysis of general trends in arms transfers indicate a positive correlation between arms transfers and exports suggesting economic rationales as a factor in weapons sales. Additionally, with the tremendous costs involved in the unification, coupled with an ever increasing demand for quality weapons, the German government may be tempted to alleviate economic problems with these sales.

904. The changing Demographics of the Black American Male Population in 2010 and its Impact on the United States Army Officer Corps, by Major Robert C. Pittard, USA, 184 pages.

The research hypothesis is that the percentage of black male Army officers is significantly less than the percentage of black males in the 18-24

age group in the United States. This study examines the effects of population, crime/prisons, families, income, education, and the Army's planned reduction of forces on the 18-24 year old population of black males in the year 2010; and the impact of those changes on the U.S. Army officer corps.

The study used linear regression graphs to project socioeconomic trends, and analyzed their effect on the 18-24 year old black male population. The study used statistical tests to analyze the results of the survey administered to black Army officers.

The study concludes that there will be a 0.4 percent increase in the number of qualified 18-24 year old black males in 2010. The study concludes that the reduction of forces and decline in Historically Black College and University production of black male officers will cause the percentage of black male officers to decline 5 percent annually. The study concludes that 78 percent of black male officers surveyed have a positive perception of their Army careers.

The study concludes the Army must recruit, train, and commission black males in sufficient numbers to increase the percentage of black male officers to a number of representative of the 18-24 year old black male population in the United States.

905. Space and the AirLand Battle, by Major John S. Prall, Jr., USA, 220 pages.

This study investigates how well the potential of space technology is incorporated by the Army into its warfighting doctrine. The study examines the potential benefits of space systems for the military, focusing on communications, navigation, reconnaissance and surveillance, and weather support. It evaluates which aspects of the warfighting doctrines, both AirLand Battle and its successor AirLand Battle Future, can be enhanced by the use of space systems. It describes the current Army space infrastructure and makes a determination as to its effectiveness in integrating space into the Army's day to day operations.

The Army already uses space technology to some extent in its operations. Examples cited from America's recent conflicts, particularly those from Operation DESERT STORM, indicate that the Army recognizes the utility of space assets and is endeavoring to find ways to effectively use them.

The study concludes that the Army should be a tactical and operational user of space services, not a strategic operator of space systems, but that it does not yet fully accept that situation. Consequently, Army space operations remain somewhat unfocused, with emphasis shifting between support of national strategic requirements and the needs of the Army's operational and tactical level AirLand Battle commanders.

906. The Relationship Between India's Geographic Element of Power and Its Military Element of Power, by Lieutenant Colonel Paida Vijay Reddy, Indian Army, 123 pages.

The geographic element of a nation is the base upon which all other elements are built. Any analysis of a country's military element, therefore, must be done with a clear understanding of its geographic element.

The author is of the opinion that many analyst have gone wrong in their analysis of India's military element due to a lack of proper understanding of its geographic element.

Using the checklist and descriptive comparison methods, the author has examined India's geographic element to include its physical, economic and

human components, thus identifying various imperatives that ought to shape its military element. He then reviews India's military element and matches the imperatives identified, to every relevant facet of its military element.

The study shows that India's military element is indeed influenced largely by its geographic element, especially by the human component of its geography. Its organization, recruitment, training, employment, etc., vindicate the author's findings. There are also certain aspects that do not conform to geographic realities. The author feels that such non-conformity is a result of India's security perceptions and the country's national interests. In sum, the author has produced sufficient evidence to establish a link between India's geographic element and its military element.

907. The A-10 Thunderbolt as an Organic Army Asset, by Major Michael N. Riley, USA, 154 pages.

This study concludes that the Air Attack Team Regiment (AATR), as a part of the corps aviation brigade, is the option that provides the Army with the best utilization of the A-10. The AATR combines the two main elements of a highly successful combat team- attack helicopters (AH-64's) and A-10's- into one organization.

The study investigates three options for the implementation of H.R. 4739 that directed the transfer of the A-10 into the Army. The three options are (1) status quo with the Air Force continuing to provide close air support (CAS) to the Army, and the A-10 would replace the OV-1 as a surveillance platform; (2) the formation of a U.S. Army Close Air Support Brigade (CASB) as proposed by the 1989 TRADOC study for assuming the entire CAS mission; (3) the formation of a U.S. Army Air Attack Regiment that combined AH-64's and A-10's into one unit under the corps aviation brigade (CAB). This paper evaluates the three options against four criteria for conducting advanced joint air attack team (AJAAT) operations: planning for preplanned AJAAT's; planning for immediate AJAAT's; command and control; and execution.

908. Communications and Imagine Technology: Revolutionizing Command and Control of the Future Battlefield, by Major Harley D. Rinerson, USA, 128 pages.

This thesis examines the effects and relationship that communications and imaging technology have on AirLand Battle and AirLand Battle Future doctrine. The thesis uses secondary analysis as the research methodology for its comparisons between current AirLand Battle and AirLand Battle Laboratory personnel in investigative future communications and imaging technologies.

Among the conclusions which could be drawn from this investigation are: (1) communications and imaging technology is revolutionizing command and control of the current and future battlefield. (2) ATCCS does not provide the bandwidth required to support real-time imaging to all players on the battlefield. (3) Support for AirLand Battle Future command and control requirements necessitates continued advancement in communications technologies.

This thesis includes definitions of the Army Tactical Command and Control System as well as technical definitions of communications and imaging systems.

909. Sandino and Guevara: Lessons for Special Operations Forces in Counternarcotics?, by Major Harry N. Rising, III, USA, 113 pages.

This study investigates historical American intervention against Latin American insurgencies to determine if lessons can be applied to Special Operations Force roles in counterdrug operations. The Marine Corps

intervention in Nicaragua, 1927-1932, and the Special Forces mission in Bolivia, 1967, were selected as case studies for comparison to the current counterdrug strategy in the Andean Ridge. The thesis question asks what lessons can be applied from the historical interventions to Special Operations Forces employment in Andean Ridge counternarcotic operations.

The National Command Authority has identified cocaine as a high priority target. The President has tasked the military along with numerous other Government agencies to support this campaign. This study focuses on how Special Operations Forces can apply their unique capabilities to support the Andean Ridge portion of the National Drug Control Strategy.

The study concludes that historical intervention validates several roles by Special Operations within the Andean Ridge counterdrug campaign. BY applying foreign internal defense skills and resurrecting a Special Forces organization called a Special Action Force (SAF), the ability to coordinate and organize interagency operations will result in an effective counterdrug infrastructure.

910. The Interrelationship of Stress, Safety, and Realism in U.S. Marine Corps Ground Combat Individual Skills Training, by Major Charles A. Romans Jr., USMC, 136 pages.

Regardless of military occupational specialty or pay grade, every Marine must be fully prepared to perform as a rifleman in a combat situation. This thesis studied three critical parameters which significantly influence the effectiveness of the individual combat skills training which every rifleman should receive. This type of training must replicate as closely as practicable the actual environment and physical parameters expected to be encountered in a combat, or other "real world," situation. The closer the leader comes to creating these conditions, the more realistic his training is said to be.

Realism is enhanced the more it involves the actual stresses and fears of the modern battlefield. Statutory safety rules and policies also play an important role in the mind of the leader as he attempts to develop and execute realistic training. The interdependence of these three elements requires the Marine Corps leader to harmonize their influence for maximum effectiveness. It is also his challenge to carefully weigh and balance the risks associated with making his unit's training more realistic.

The author's study is apparently the first of its kind on this specific subject. His methodological approach to research included a review of all the existing documentary materials which established current training philosophy or policy, an analysis of the results of a survey sent to contemporary Marine Corps combat veterans, and a synopsis of interviews conducted with several international officers resident at the 1991 U.S. Army Command and General Staff College.

Conclusions derived from this study were done on a Corps-wide basis. That is, qualitative analytical judgments were made for the average unit or school conducting routine combat skills training. In the author's opinion, training is not being conducted as realistically as it could be, the causes and countermeasures for battlefield stress are not being formally instructed, and existing safety policies are often unnecessarily restricting the quality of training. These conclusions do not indict the world's most elite fighting organization: they merely highlight areas within the training management environmental which should be targeted for immediate attention and improvement.

911. Success in Low Intensity Conflict: Conclusions and Implications, by Major David J. Schroer, USA, 586 pages.

This study examines eighteen historical case studies in Low Intensity Conflict (LIC) to determine if common, critical elements of success exist in all four operational categories. The results of the historical analysis did not yield a set of common, consistent critical elements of success. The study did provide a conceptual framework for analysis of LIC using historical examples to illustrate principles. The study also identified and outlined several trends that are indicative of success in LIC. Conclusions of the study call for greater depth to current U.S. Army doctrine, beginning with a comprehensive, interagency strategic approach to the four operational categories of conflict. Finally, the study recognizes the commonality between the Special Operations (SO) Imperatives and many of the trends in the study. With some expansion, the SO Imperatives form a much better basis for LIC doctrine than current AirLand Battle doctrine.

912. What Force Structure Best Positions the Engineer Bridge Company to Support River Crossing Operations?, by Major Todd T. Semonite, USA, 209 pages.

This study researches the positioning of the current Heavy Division Brigade Company to best support River Crossing Operations. Numerous changes in force structure, size of the force, and optimum use of engineer capabilities have raised valid questions concerning the positioning of bridging assets. New warfighting doctrine requires additional support functions being shifted to corps level. The Engineer School projects that a majority of future river crossing operations will require augmentation by corps assets. These questions lay a foundation to seriously question if the divisional bridge company should be transferred to corps level.

The thesis resolves the question by analyzing historical perspectives and the ability to support AirLand Battlefield doctrine. Additionally, the Engineer Restructuring Initiative and Army-wide troop reductions are researched to determine their impact on the unit's ability to support river crossing operations. Three possible relationships are tested involving assignment to the divisional battalion, the corps brigade, or additional corps brigade battalions.

The study uses four independent decision matrices to conclude that the brigade company should be assigned to a Corps Brigade Battalion. This relationship best supports AirLand Battle-Future doctrine and river crossing operations supporting the heavy maneuver brigade. Recommendations concerning command and control, training and sustainment are included.

913. A comparison of Initiative During the 1864 Virginia Overland Campaign, by Major Jeffrey S. Shadburn, USA, 213 pages.

This study is an analysis of the competing initiative displayed between Generals Ulysses S. Grant and Robert E. Lee during Grant's 1864 Overland Campaign in Virginia.

It begins with Lincoln's appointing Grant as Lieutenant General and General in Chief of all Union armies on March 9, 1864, and concludes with the failure of Grant's June 18 assault at Petersburg, Virginia. Grant and Lee's campaign intentions are analyzed, their means are compared, and their armies' actions are described and analyzed to determine that Lee displayed greater initiative than Grant.

Lee demonstrated superior initiative during the campaign because he forced Grant to deviate from his plans and attack formidable defensive positions, and because he held the final initiative. Each of Grant's flanking movements was an attempt to gain the initiative, followed by the destruction of Lee's army. Each time Grant moved, Lee seized the initiative and barred Grant's progress. Grant came closest to achieving his desired objective when

he crossed the James River and attacked Petersburg. The attack failed because Grant's senior commanders failed to sustain the Federal initiative.

914. Counterdrug Operations in the Golden Triangle, by Major Berry M. Shapiro, USA, 100 pages.

This study investigates the application of current US Army counterinsurgency doctrine for counterdrug operations in the drug producing area of Southeast Asia known as the Golden Triangle. The Army is tasked with supporting counterdrug operations in source countries, but offers only broad guidance for units conducting this mission.

This study attempts to show that the fundamental causes of insurgency and drug trafficking in the Golden Triangle are essentially the same and the two problems are inseparable. Drug trafficking should therefore be susceptible to the same principles of counterinsurgency doctrine.

Culminative drug control efforts in the Golden Triangle have been unsuccessful because the involved governments have demonstrated a comprehensive failure to properly address the factors which have generated and sustained the highly profitable and resilient drug trade. The functions, principles and objectives of counterinsurgency doctrine will be analyzed relevant to the drug trafficking problem in the Golden Triangle, and will form the basis for a hypothetical regional counterdrug strategy.

915. The Division Aviation Support Battalion, by Major Patrick L. Sherman, USA, 150 pages.

This study is a comparative analysis of the sustainment system for the Aviation Brigade as it currently exists and the proposed Division Aviation Support Battalion concept. This concept introduces a support system for the Aviation Brigade that is similar to that provided to the maneuver brigades in the heavy divisions.

The current system evolved out of the early AirLand Battle doctrine developed in the early 1980s. However, the advance of technology and changing doctrine have changed the support requirements of the Aviation Brigade. Higher consumption rates of ammunition, fuel, and repair parts coupled with the requirement to conduct continuous operations for several days at a time over greatly increased distances have placed ever increasing demands on the logistical support system.

This study compares the advantages and disadvantages of each system in the areas of Arming, Fueling, and Fixing as measured by the sustainment imperatives: anticipation, integration, continuity, responsiveness, and improvisation. This study recommends the adoption of the Division Aviation Support Battalion by the Army to meet the increasing demands of the Aviation Brigade on battlefield.

916. Tactical Fighter Employment: The Optimum Role in Contingency Operations, by Major Michael A. Snodgrass, USAF, 139 pages.

This study determines if an optimum role for tactical fighters exists in Contingency Operations, (formerly known as Peacetime Contingency Operations) a form of Low Intensity Conflict (LIC). This report traces the historical development of the terminology surrounding LIC, and analyzes four case studies involving the use of tactical airpower in Contingency Operations.

The study examines the Mayaguez Incident, the Israeli raid on Tunisia, the U.S. Navy's attack on Syrian anti-aircraft positions and Operation El Dorado Canyon. Each case study is examined, analyzed and rated in each of the nine areas. Mission results are attributed to success or failure in specific

areas within a matrix. The nine areas addressed are: Intelligence, Force Availability, Threat, Collateral Damage, Objective, Time, Air Superiority, Surprise, and Risk.

The results provide a deeper understanding of the requirements for tactical fighter employment in Contingency Operations. Tactical airpower strikes fast, over long distances, and with massive destructive power. However, it cannot hold territory or rescue hostages. The use of tactical airpower is also a strong signal, involving U.S. prestige and power. When used optimally, tactical airpower is a potent arm of the military element of power.

917. Troop Leading Procedures: Essential for the Effective Use of Time by Light Infantry Battalions During Tactical Operations, by Major Thomas J. Snukis, USA, 174 pages.

This study examines the ability of light infantry battalions to use available time during planning and preparing for tactical operations. Light battalions, as well as other U.S. Army units, must be capable of quick reaction based on rapid decision-making; this must occur to meet the AirLand Battle tenets of agility, initiative, and synchronization.

The study defines the requirement for tactical planning and preparation based on doctrinal, current, and historical thought. It then compares those requirements against the results of 21 Joint Readiness Training Center (JRTC) rotations. Analysis of the breakdowns between the two highlight the factors that prevent the light battalions from properly using available time.

The study stresses adherence to the eight steps of troop leading procedures (TLP) as a logical means to assist the commander, staff, and subordinate leaders with tactical planning and preparation. The study promotes realistic and repetitive staff and leader training to ensure adherence to the mechanics of TLP.

918. An Analysis of the Effects of Intermediate Service School Professional Military Education Completion on the Careers of United States Air Force Officers, by Major Ronald L. Stevens, USAF, 109 pages.

This study analyzes the effects of intermediate service school (ISS) completion on three key indicators of success in Air Force officers' careers. Promotions, retention, and selection to become a commander are researched. Active duty Air Force line officers are studied; Air Force Reserve, Air National Guard, medical, legal, and chaplain fields are not included.

The data is categorized by ISS completion method. Air Command and Staff College (ACSC), Armed Forces Staff College, Army Command and General Staff College, and a combination of the College of Naval Command and Staff and the Marine Corps Command and Staff College are the resident categories. Other categories include seminar or correspondence (non-residence), and no completion.

The study analyzes whether differences between completion methods are significant using a combination of Chi Square and differences between proportions methods. The study compares results of ISS completion versus no ISS completion. It also compares residence versus non-residence. The study then compares each of the other service's schools that provide ISS in residence to ACSC.

The study reviews the results obtained with teaching methods and student/facility makeup of each of the resident schools. It then discusses the ISS selection process and provides areas for further research.

919. Sustaining the Light-Heavy Brigade, by Major Christopher Tucker, USA, 152 pages.

This study examines the sustainment challenges encountered when a mechanized infantry task force augments a light infantry brigade. The study determines the validity of establishing a light-heavy mix within the light brigade and explores the support required to sustain this force.

The study determined that history and recent experiences at the combat training centers provide valuable lessons for the employment and sustainment of light-heavy forces. The lessons are then applied to the light-heavy force given current doctrine to identify shortcomings and possible solutions.

Current and evolving doctrine are analyzed to determine the methods for sustaining the light-heavy brigade. The study determined a need to plan in detail the task organization of a light-heavy brigade and that sustainment of the force required extensive planning and preparation. The study concludes that the light-heavy brigade is a viable, supportable force; however, the heavy task force requires extensive external support to fight effectively with a light infantry brigade.

920. United States Chemical Policy: Response Considerations, by Major Lewis L. VanDyke, USA, 112 pages.

Chemical weapons have been a controversial subject for years. Even before the Germans introduced modern chemical warfare on 22 April 1915 during World War I, issues concerning use of asphyxiating gases and other chemical agents surfaced. Discussions often became emotional and clouded the issues of the effects of this type of warfare. Propaganda and sensationalism contributed to the negative public opinion and impacted on policy development.

This study examines the development of the United States' chemical policy by looking at significant events over time and analyzing developments and trends. An answer to the question of whether or not the United States will respond with chemical weapons following use by a third world country against United States military forces is concluded based on study findings.

This study concludes that the United States will not respond with chemical weapons against a third world country such as Iraq. Such use of chemical weapons would reverse the developments and trends the United States has made in recent years. The political considerations and impact on future negotiations toward banning chemical weapons would be detrimental if the United States did retaliate with chemical weapons.

921. An Analysis of the Hungnam Evacuation Based on Current and Emerging Joint Doctrine, by Major Albert M. Vargesco, USA, 105 pages.

This study investigates the roles that each service played in support of the successful evacuation of the U.S. X Corps from the port of Hungnam in December of 1950. The concept presented is one that emphasizes the unique capabilities of each service while concentrating on the necessity for complimentary support in order to achieve overall success.

In order to view the operation through the eyes of each service, a wide variety of source documents pertaining to each was evaluated. In order to view the operation through the eyes of the participants, soldiers who were there provided their comments by letter input. A look at current doctrine pertaining to joint operations was also a part of the evaluation and analysis.

The evacuation of X Corps incorporated a variety of joint tasks: withdrawal under pressure, relief operations, aerial evacuation and resupply, engineer operations, underwater demolitions, naval gunfire support, close air

support, deep attack and naval transport. In addition, the evacuation of thousands of civilian refugees compounded the planners problems.

The study supports the rationale for using this joint operation as an example in future joint doctrine. In contrast to most joint operations of recent history, this operation included all the services. The Hungnam Evacuation provides an excellent historical example for today's joint planners.

922. General Albert C. Wedemeyer's Missions in China, 1944-1947: An Attempt to Achieve the Impossible, by Captain Alexander H. Von Plinsky, III, 117 pages.

This study examines the performance of General Albert C. Wedemeyer in China from 1944 through 1947.

During this period Wedemeyer served first as the Theater Commander and Chief of Staff to Generalissimo Chinag Kai-shek (November 1944 - April 1946), and then as a Presidential Envoy to China (July-September 1947). He faced innumerable challenges in attempting to accomplish his missions. This thesis will examine the problems he faced, the approach he took toward solving them, and the results he produced.

Wedemeyer's problems are well chronicled in many works by and about the figures involved in this tragic history. This contribution attempts to view the situation primarily from Wedemeyer's point of view, while remaining sufficiently objective to analyze his performance and extract lessons learned. Lessons that may be of value to officers involved in similar current and future operations in foreign nations.

923. Characteristics of Successful Operational Maneuver, by Captain Joseph L. Votel, USA, 253 pages.

This thesis explores the topic of operational maneuver by addressing the following research question: What are the characteristics of successful operational maneuver?

The thesis uses a combination of descriptive research and case studies to answer the question. First, it uses descriptive research to analyze current AirLand Battle doctrine to identify potential characteristics of successful operational maneuver. The analysis of doctrine reveals two characteristics, mass and offensive action, for further examination. Second, the thesis uses case study analysis to examine mass and offensive action in four operational case studies.

The thesis concludes that mass and offensive action are the primary characteristics of operational maneuver. Their development in operational art depends; however, on the existence of corollary concepts that assist in overall development of the characteristics.

While not specifically written to evaluate current doctrine for operational maneuver, the thesis identifies three areas that may require additional illumination in future doctrine. These areas are surprise, mobility, and distribution of forces.

Finally, the thesis identifies two particular generalizations that will influence future operational maneuver. These generalizations are political influence and operational leadership.

924. Dedicated Snipers, by Major Roy C. Waggoner, USA, 195 pages.

Should snipers in a light infantry battalion be full time snipers or perform sniper tasks as an additional duty? The Army currently authorizes three sniper weapons systems and perform the sniper task as an additional duty. After the mission, they revert to their primary duties.

The study also examines the advantages of employing snipers in support of light infantry. It also looks at the organization and employment of snipers in the Soviet Union, England, France, Canada, Germany, both historically and currently.

This study concludes that six dedicated snipers should be authorized for each rifle battalion in light, airborne, and air assault divisions identified for contingency operations. Further, two additional-duty snipers should be authorized for each mechanized company in the active and reserve components.

925. Israeli Combined Arms Employment, UM KATIF, 1967; Suez Canal, 1973, by Major Charles L. Weeks, USA, 175 pages.

The next desert war the United States fights could be against an enemy more comparable to us in training, motivation, and technology than the recent conflict in the Persian Gulf. The Middle East is a dangerous part of the world where we have limited experience in the use of high technology weapons, or in large-scale combat even given the recent war against Iraq. Since we have limited experience in these areas, this thesis analyzes two of the most recent historical examples of such combat from the 1967 and 1973 Arab-Israeli Wars to reveal conclusions useful to U.S. warfighters.

This thesis examines the Battle of Um Katef, Abu Ageila from the 1967 War, and the Sinai Campaign from the 1973 War. They were examined primarily from secondary sources, using the U.S. Army battlefield operating systems, as the framework to evaluate success or failure. The resulting keys to success or reasons for failure were then further evaluated against the four tenets of U.S. AirLand Battle Doctrine (Agility, Initiative, Depth, and Synchronization).

The result of this investigation is a number of conclusions regarding modern combined arms combat. These conclusions are categorized as strengths or weaknesses and presented as lessons learned. Surprisingly enough, none of the lessons learned proved to be environment specific.

926. Property Disposal Requirements During Base Closure, by Major George E. Welch, USA, 142 pages.

This study investigates the requirements for property disposal during base closure operations. It cites references from U.S. Army, DoD, DMA, Federal and Regional laws, rules, regulations, directives, and intent to properly dispose of property. Selected commodities used as a vehicle for this limited study include printed paper products, refuse, general supplies, repair parts, and POL (petroleum, oil, and lubricants) products.

Requirements are analyzed using several criteria to determine their applicability, utility, and functionality at the level where most disposal operations will likely take place. The study is oriented to the installation level planner who has the responsibility of planning the property disposal activities.

The study promotes Army documentation of closure actions and dissemination of requirements to lower levels. It further encourages the development of a dedicated base closure handbook that covers detailed requirements for property disposal. The study further encourages an expansion of the knowledge base for disposal operations and recommends additional study to evaluate commodities not included in this study.

927. The Future Role of the Combined Action Program, by Major Michael Duane Weltzsch, USMC, 171 pages.

This study investigates the role of the Combined Action Program (CAP) as a future counterinsurgency tactic against a Maoist-style rural insurgency, and the benefits derived from mass support. It then narrates a history of CAP and identifies its strengths and weaknesses. This study then analyzes CAP's ability to reduce the benefits of mass support received by the insurgent. Finally, this study makes recommendations for the future employment of CAP.

928. The Role of Armor in a Jungle Environment, by Major Kevin S. Wimmer, USA, 121 pages.

This study examines armored warfare in a jungle environment. The focus is to determine if there is a role for ground mounted armored forces in jungle warfare. This study explains how armor was used in past jungle conflicts and examines current doctrine and applicability of employment of armor in the jungle.

The first portion of the research focuses on discerning how armor was used in past jungle conflicts. The Pacific campaign of World War II and the Vietnam War are examined to determine the historical role of armor in a jungle environment. Early employment of armor in these two conflicts is examined to determine the criteria for use of armored forces in the jungle and examines the tactics, techniques, and procedures that were developed during these conflicts.

The second portion of this study focuses on the feasibility of current employment of armor in a jungle environment. Current Army and Marine armored doctrine is examined and interviews are conducted to determine if current armored systems could and should be employed in jungle warfare. Additionally, officers from foreign countries are interviewed to determine how armored forces are employed in the jungle areas of their countries.

929. American Prisoners of Japan: Did Rank Have its Privilege?, by Major Michael A. (Buffone) Zarate, USA, 241 pages.

This thesis examines the story of American POWs held by the Japanese in WWII to see if there were significant differences in treatment based on rank. It examines how the Japanese treated the prisoners according to international law and also distinctions made by the officers themselves simply because of higher rank.

The thesis begins by discussing the historical framework for POW rank distinctions by looking at past wars and the development of rank distinctions in international rules. It then covers the American WWII POW experience in the Far East from Bataan and Corregidor to the war's end.

Special emphasis is placed on distinctions made in food, housing, pay, medical care, camp administration, work requirements, escape opportunities, transportation, leadership problems, and overall death rates.

The study concludes that there were significant differences in treatment based on rank. These differences caused extremely high enlisted death rates during the first year of captivity. The officers fared worse as a group, however, because the Japanese held them in the Philippines until late 1944 because international rules prevented the Japanese from using officers in Japan's labor camps. During shipment to Japan many officers died when the unmarked transport ships were sunk by advancing American forces.

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